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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,838	03/03/2004	Yusuke Ishida	00684.003607	2505

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EXAMINER

CHEN, SOPHIA S

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/790,838

Applicant(s)

ISHIDA, YUSUKE

Examiner

Sophia S. Chen

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/3/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date <u>3/3/04 & 4/20/04</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. ____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
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DETAILED ACTION

Drawings

1. The drawings are objected to because the reference numeral "2" (next to 3a) of Figure 1 should be labeled as "3". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 1c (Figures 3 and 15) and 3a (Figures 1 and 2). Corrected drawing sheets

in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because of the following informalities:

a. Reference character "A" has been used to designate both "an arrow" (page 8, line 8) and "a developing bias voltage" (page 22, lines 18-19, etc. and Figures 6, 7(a), and 8(a)).

b. Reference character "D" has been used to designate both "a developing position" (page 10, line 7, etc. and Figures 1 and 2) and "an image area" (page 23, line 17, etc. and Figures 1 and 2).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
5. The abstract of the disclosure is objected to because of the inclusion of legal phraseology, such as "means" (page 44, lines 4, 5, 7, 9, 10, 11, 12, and 13). Correction is required. See MPEP § 608.01(b).
6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
7. The disclosure is objected to because of the following informalities:
 - a. Page 7, line 26, "means9" should be "means".
 - b. Page 11, line 3, "7" should be "R7".
 - c. Page 11, line 4, "transfer roll" should be "fixing apparatus".
 - d. Page 12, line 4, "1A" should be "4A".
 - e. Page 14, line 24, "24" should be "R24".
 - f. Page 24, lines 9-10, "In the non-image area E." is grammatically incorrect.

- g. Page 26, line 15, "i" should be "is".
- h. Page 31, line 14, "The" should be "The".
- i. Page 31, line 23, "a an" should be "as an".

Appropriate correction is required.

Claim Rejections – 35 U.S.C. §103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pacer et al. (US Pat. No. 5,410,388) in view of Shin et al. (US Pat. Pub. No. US 2003/0147658 A1)

Pacer et al. discloses an image forming apparatus, comprising: an image bearing member 10 having a surface layer (inherently); electrostatic image forming means 20 for forming an electrostatic image on the surface layer (column 3, lines 19-22); developing means 34, containing at least toner and a carrier, for developing the electrostatic image (column 3, line 68 to column 4, line 2); density measuring means 54 measuring a density of the developed electrostatic image (column 5, lines 16-18); adjusting means 80 for adjusting toner content and developing bias (emphasis added) in the developing means 34 (column 5, lines 26-51); and the electrostatic image forming

means (corona generating device) 20 comprises means for electrically charging the surface layer (column 3, lines 19-22).

Pacer et al. differs from the instant claimed invention in not disclosing layer thickness measuring means; the adjusting means adjusts the toner content on the basis of the thickness of the surface layer; and the layer thickness means measures the thickness on the surface layer by measuring a current passing through the image bearing member via the electrostatic image forming means.

Shin et al. discloses an image forming apparatus, comprising: an image bearing member 71 having a surface layer; electrostatic image forming means (a charging roller) 72; developing means 74; layer thickness measuring means 79 for measuring a thickness of the surface layer (abstract and paragraphs [0031] and [0034]); adjusting means 60 for adjusting a developing bias V_B on the basis of the thickness of the surface layer measured by the layer thickness measuring means 79 (paragraphs [0031], [0032], and [0034]); and the layer thickness means 79 measures the thickness on the surface layer by measuring a current passing through the image bearing member 71 via the electrostatic image forming means 72 (paragraphs [0031] and [0034]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the electrostatic image forming means (a charging roller) as taught by Shin et al. in place of the electrostatic image forming means (a corona device) of Pacer et al. because of the same functionality for charging the image bearing member.

Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the layer thickness means as taught by Shin et al. to the adjusting means of Pacer et al. to prevent a decrease in an image concentration caused by a variation in a thickness of a photosensitive body (Shin et al., paragraph [0014]).

Allowable Subject Matter

10. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kikui (US Pat. No. 5,966,558) discloses an image forming apparatus comprising a photosensitive body, an aging change detecting device, and a potential correcting device for correcting a potential of the surface of the charged photosensitive body or a developing bias of a developing roller.

Tsunemi (US Pat. No. 6,014,530) discloses an image forming apparatus comprising a photosensitive drum, a drum film thickness measuring circuit for measuring the thickness of the drum film by measuring a current passing through the drum via a charging roller, and a controller.

Ishigaki et al. (US Pat. No. 6,160,969) discloses an image forming apparatus comprising an image bearing member, a density sensor, and a controller for controlling toner replenishment.

Kubota et al. (US Pat. Pub. No. US 2002/0127026 A1) discloses an image forming apparatus comprising an image bearing member, a film thickness measuring means, and a developing bias control section.

Watanabe (JP 07-191535 A) discloses an image forming apparatus comprising a photosensitive drum, a drum film thickness measuring means for measuring the thickness of the drum film by measuring a current passing through the drum via a charging roller, and a controller.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (571) 272-2133. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2852

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sophia S. Chen
Primary Examiner
Art Unit 2852

Ssc
September 16, 2005